



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,705	03/19/2004	Yu-Ling Chiu	ALIP0042USA	2704
27765	7590	12/15/2004	EXAMINER	
(NAIPC) NORTH AMERICA INTERNATIONAL PATENT OFFICE			IM, JUNGHWA M	
P.O. BOX 506			ART UNIT	PAPER NUMBER
MERRIFIELD, VA 22116			2811	

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/708,705	CHIU ET AL.	
	Examiner	Art Unit	
	Junghwa M. Im	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsunoda et al. (US 6417532), hereinafter Tsunoda.

Regarding claim 1, Fig. 16 of Tsunoda shows a wire bonding package comprising:

a housing [94] having a plurality of pins [95] installed;

a circuit board [92] installed inside the housing, the circuit board comprising at least a trace connected to the pins of the housing;

at least a die [91] installed on the circuit board, the die having a plurality of bonding pads installed; and

at least a bonding line connected between the bonding pads of the die and the trace of the circuit board so that the bonding pads of the die are electrically connected to the pins of the housing [col. 1, lines 30-41].

Regarding claim 4, Fig. 16 of Tsunoda shows a plurality of die, at least two of the die adhering to the circuit board.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Gilliland (US Pat. Pub. 2004/0118587).

Regarding claim 1, Fig. 1 of Gilliland shows a wire bonding package comprising:
a housing [14] having a plurality of pins installed;
a circuit board [30] installed inside the housing, the circuit board comprising at least a trace connected to the pins of the housing;
at least a die [28] installed on the circuit board, the die having a plurality of bonding pads installed; and
at least a bonding line [42] connected between the bonding pads of the die and the trace of the circuit board so that the bonding pads of the die are electrically connected to the pins of the housing.

Regarding claim 2, Fig. 1 of Gilliland shows the housing comprises a lead frame [44] for accommodating the circuit board.

Regarding claim 8, Fig. 1 of Gilliland shows at least a passive component [28] installed on the circuit board [paragraph 0036].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2811

Claims 3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilliland in view of Chiang (US 6744126).

Regarding claim 3, Fig. 1 of Gilliland shows substantially the entire claimed structure except "a plurality of die stacked on the circuit board." Chiang discloses a stacked chip arrangement in lieu of the single-chip packages [col. 3, lines 1-21].

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Chiang into the device of Gilliland in order to have a plurality of die stacked on the circuit board to reduce a package size.

Regarding claims 5-7, Fig. 1 of Gilliland shows substantially the entire claimed structure except that the housing can be a ball grid array (BGA) or a quad flat package (QFP) or a dual in-line package (DIP). Chiang discloses that the housing can be configured in BGA, QFP or DIP [col. 24, lines 46-60].

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Chiang into the device of Gilliland in order to have a house comprised of BGA, QFP or DIP to accommodate the design specification.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Junghwa M. Im whose telephone number is (571) 272-1655. The examiner can normally be reached on MON.-FRI. 8:30AM-5:00PM.

Art Unit: 2811

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C Lee can be reached on (571) 272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jmi



EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800